

Turing Tests for Specific Fields of Expertise

A domain-specific Turing Test is a method for backing up or refuting a claim that a computer system (hardware/software combination) is “intelligent” in a specific domain or field of expertise. For example, in medicine, a Turing test might involve a panel of human doctors who pose a series of questions to the computer system and to a human doctor, and on the basis of the answers, try to determine which answers are from the computer and which from the human. If the computer gets more votes for “human” than the human, it passes the test.

1. Choose a field of expertise that interests you. It could be your major, but it does not have to be. (Maybe consider subjects such as organic chemistry, electrical engineering, mathematics, classical music, etc.)

[If you are using Word, or it's otherwise convenient, please enter all your answers in [BLUE](#)].

[Language translation](#)

2. Explain what a person typically does in a job within this field.

[Convert written materials or interpret speech from one language into another language.](#)

3. Explain what parts of this job can already be done by computer.

[Apps, like Siri and Google translate, have already been able to translate texts and speech with some accuracies.](#)

4. Explain what seems to be BEYOND the state of the art -- something in this field that a computer cannot yet do but might be able to do soon.

[Translation apps always lack national tones and often fail to translate colloquialisms, idioms, and dialect.](#)

5. Describe how a good Turing test would be set up in this field:

[Let AI translator and a human translator each translate texts or speech ranging from everyday dialogues to literature in a given time. Input will be both texts and speech \(50-50\), but output will just be in texts.](#)

- a. Who should be the judges? [Native speakers of two different languages](#)
- b. What kinds of questions would be fair game for the test? [From everyday dialogues to profound literature](#)
- c. What affordances would be particularly important in this field? (Understanding human speech? Understanding a particular notation such as chemical formulas? Machine vision? Ability to perform logical deductions? Knowledge of particular types of facts such as chemical element properties?)

- [Recognize human speech](#)
- [Able to translate texts or dialogues with no misunderstanding](#)
- [Able to detect tones \(angry, happy, etc.\) or humors of the texts or speech](#)

6. Is there any particular "must-have" feature for a computer to exhibit in your field in order to be considered "intelligent" within your field?

[Must be able to recognize human speech and translate speech with or few mistakes/misunderstanding](#)

7. What do you see as the likely progress of AI in this field in the next 10 years?

In the future, AI translators may improve a lot in accuracies and exhibit human-like tones. However, it is unlikely that it will replace human in this field in ten years.

8. Get critiques from at least 2 classmates during breakouts...

a. First classmate's name and email: Reece Peters, reecepeters1@gmail.com

Classmate's own topic: Mathematics

Classmate's main suggestion for your test:

Affordances sound more like conditions that the computer should fulfill to be smart rather than listing the things that the computer would need to communicate its results. Unless you mean that the tone should be explicitly provided to the computer.

b. Second classmate's name and email: John Keller, johnk21@uw.edu Classmate's

own topic: Suicide prevention

Classmate's main suggestion for your test:

Maybe be a bit more specific about the test itself. Will it just be reading, or will it involve speech as an output? Will it involve speech as an input? Will it also output text? What is the balance of the overall tests in terms of these different inputs/outputs?